

Remarks/Arguments:

Claims 1, 5, 13 and 17 have been amended. No new material is introduced herein. Claims 1, 3-13, 15, 17, 19, 21 and 22 are pending.

Rejections under 35 U.S.C. §102

Claims 1, 5, 9, 13, 15, 17, 19 and 21 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Pfister et al. (WO 96/03741). It is respectfully submitted, however, that these claims are now patentable over the cited art for the reasons set forth below.

Claim 1, as amended, includes features neither disclosed nor suggested by the cited art, namely:

- (a) a step of entering a sentence by speech...
- (b) a step of recognizing a part of the entered speech, and determining candidates of word strings as a unit of one to several words from the recognized part of the entered speech...
- (c) a step of displaying the candidates...
- (d) a step of allowing a user to select from the displayed candidates...
...a remaining part of the entered speech is recognized by sequentially repeating the candidate determining step (b), the displaying step (c), and the selecting step (d), in a unit of the word string from a beginning of the entered speech... (Emphasis Added)

Independent claims 5, 13 and 17, although not identical to claim 1, include similar recitations. These features are disclosed, for example, p. 9, line 14- p.12, line 16, and Figure 3.

Pfister et al. disclose a speech transcription system, Fig. 1, that is based on phoneme recognition (p. 10, line 33). Pfister et al. first perform phoneme recognition on the entire utterance in a dictation mode to generate a machine readable phonetic symbol string (for example, hiragana or katakana) of the entire utterance (p. 17, line 1-p. 19, line 35 and p. 21, lines 15-16). Pfister et al. then identifies word boundaries within the recognized phonetic symbol string using software pre-processor

11 and presents word boundary candidates with word processor 12 in a display and editing mode (p. 22, line 15-p. 24, line 11). The phonetic symbol string is converted into words (for example, kanji) according to selected word boundary candidates (p. 27, lines 24-30). Thus, Pfister et al. recognizes all of the utterance as a phonetic symbol string and then converts the recognized phonetic symbol string into words using software pre-processor 11 and word processor 12.

Pfister et al. do not disclose or suggest Applicants' claimed features of "(b) a step of recognizing a part of the entered speech, and determining candidates of word strings as a unit of one to several words from the recognized part of the entered speech...(c) a step of displaying the candidates...(d) a step of allowing a user to select from the displayed candidates..." or that "a remaining part of the entered speech is recognized by sequentially repeating... step (b), ... step (c), and ... step (d), in a unit of the word string from a beginning of the entered speech..." (emphasis added). More specifically, Applicants recognize a part of the entered speech. Candidates are presented based on the recognized part of the entered speech. The process is sequentially repeated to recognize a remaining part of the entered speech. These features are neither disclosed nor suggested by Pfister et al. In contrast, Pfister et al. recognize all of the utterance as a machine readable phonetic symbol string and allows a user to select words in the recognized phonetic symbol string. Thus, Pfister et al. do not include all of the features of claim 1.

Applicants' claimed features provide an advantage over Pfister et al. by requiring less storage capacity due to performing recognition on a part of the entered speech. According to Applicants' claim 1, units of word strings rather than an entire sentence are recognized. Accordingly, a device using Applicants' claimed method is not required to store speech recognition results for an entire sentence, thus requiring less storage capacity and allowing the device to be reduced in size.

Applicants' claimed features provide a further advantage over Pfister et al. by providing a higher recognition rate as compared with the phoneme recognition disclosed by Pfister et al. The phoneme recognition rate described by Pfister et al. is generally lowered by noise (such as an utterance other than speech). False phoneme recognition of the entire utterance may lead to determining incorrect word boundary candidates, thus leading to an incorrect selection of words and a lower recognition

rate. Applicants' claimed features, however, recognize a part of the entered speech and the recognition results are indicated to a user via display of candidates of word-strings. The user determines the correct word and the process is repeated to recognize a remaining part of the entered speech. Therefore, if the recognition rate is lowered in a part of the entered speech due to noise or a non-speech utterance, the poor recognition can be compensated by user selection of the correct word, so that the final recognition rate is higher as compared with Pfister et al. Thus, Applicants' claim 1 includes advantages and features neither disclosed nor suggested by the cited art. Accordingly, allowance of claim 1 is respectfully requested.

Claim 21 includes all of the features of claim 1 from which it depends. Accordingly, claim 21 is also patentable over the cited art.

Although not identical to claim 1, independent claims 5, 13 and 17, as amended, include features similar to claim 1 which are not disclosed or suggested in the cited art and are allowable for at least the same reasons as claim 1. Accordingly, allowance of claims 5, 13 and 17 is respectfully requested.

Claim 9 includes all of the features of claim 5 from which it depends; claim 15 includes all of the features of claim 13 from which it depends; and claim 19 includes all of the features of claim 17 from which it depends. Accordingly, claims 9, 15 and 19 are also patentable over the cited art.

Rejections under 35 U.S.C. §103

Claim 9 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Pfister et al. in view of an Official Notice that cellular telephones having speech recognition capability is well known in the art. Claim 9, however, includes all of the features of claim 5 from which it depends. Accordingly, claim 9 is also patentable over the cited art.

Claims 3, 6-7, 10-11 and 22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Pfister et al. in view of Abe et al. (U.S. Pat. No. 6,173,253). Claims 3 and 22, however, include all of the features of claim 1 from which they

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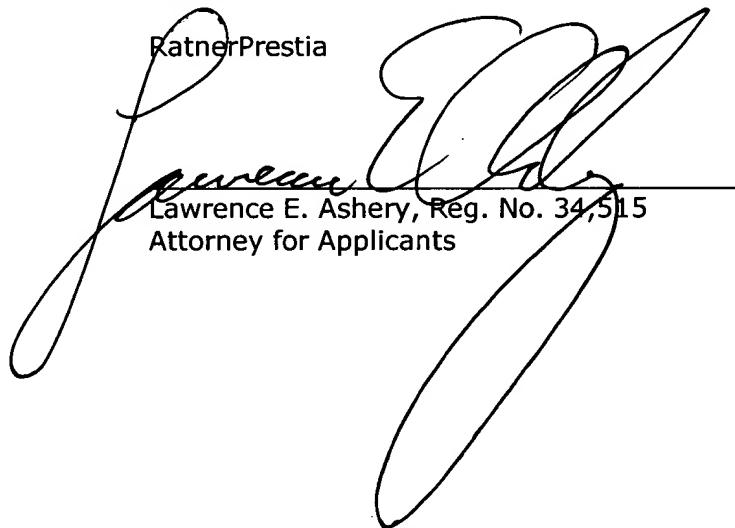
depend. Claims 6-7 and 10-11 include all of the features of claim 5 from which they depend. Abe et al. do not make up for the features lacking in Pfister et al. Accordingly, claims 3, 6-7, 10-11 and 22 are also patentable over the cited art.

Claims 4, 8 and 12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Pfister et al. in view of Abe et al. and further in view of Huang et al. (U.S. Pat. No. 5,829,000). Claim 4, however, includes all of the features of claim 1 from which it depends. Claims 8 and 12 include all of the features of claim 5 from which they depend. Huang et al. do not make up for the features that are lacking in Pfister et al. and Abe et al. Accordingly, claims 4, 8 and 12 are also patentable over the cited art.

In view of the arguments set forth above, the above-identified application is in condition for allowance, which action is respectfully requested.

Respectfully submitted,

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